

CLAIMS

1. A valve train for an internal combustion engine, comprising:

a valve operating cam rotating around a rotational center line in synchronism with a rotation of the engine;

5 an engine valve including at least one of an inlet valve and an exhaust valve;

a transmission mechanism for transmitting a valve drive force of the valve operating cam to the engine 10 valve so as to operate the engine valve in opening and closing states, the transmission mechanism including:

a primary oscillating member having an abutment portion which abuts with the valve operating cam, and oscillating about a primary oscillating center line by 15 the valve operating cam;

a secondary oscillating member having a valve abutment portion which abuts with the engine valve, transmitting the valve drive force via the primary oscillating member to the engine valve, and oscillating 20 about a secondary oscillating center line;

a holder supporting the primary and secondary oscillating members in an oscillatory fashion so that the primary and secondary oscillating center lines rotate together therewith, and oscillating about a holder 25 oscillating center line which is different from the

rotational center line of the valve operating cam;

a drive mechanism for driving the holder so as to control valve properties including opening and closing timings and maximum lift amount of the engine valve in
5 accordance with an oscillating position of the holder;

wherein as the oscillating position of the holder approaches a predetermined position where a valve operating property where a maximum lift amount becomes maximum is obtained, a cam abutment position where a cam
10 lobe portion of the valve operating cam and the cam abutment portion abut with each other approaches a specific straight line which passes through the holder oscillating center line and the rotational center line.

15 2. The valve train for the internal combustion engine as set forth in Claim 1, wherein the valve abutment portion having a valve abutment surface which abuts with the engine valve is provided at a position which intersects with the holder oscillating center line.

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3. The valve train for the internal combustion engine as set forth in Claim 1, wherein the valve abutment portion abuts with a valve shaft of the engine valve, the holder oscillating center line is disposed on an
25 extension of the valve shaft which extends along an axis

of the valve shaft, and

when the cam abutment position is situated at an apex of the cam lobe portion, the cam abutment position is situated on the specific straight line.

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4. The valve train for the internal combustion engine as set forth in Claim 1, wherein the valve abutment portion abuts with a valve shaft of the engine valve, the holder oscillating center line is disposed on an extension of the valve shaft which extends along an axis of the valve shaft, and

the cam abutment portion is disposed such that the cam abutment position is capable of being situated on the specific straight line which passes through the holder oscillating center line and the rotational center line.